



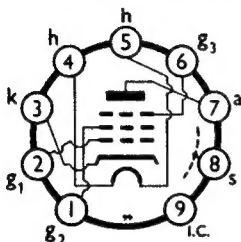
# VIDEO POWER PENTODE

# N309/PL83

FEBRUARY, 1956

A power pentode of high mutual conductance primarily designed for use as a video output valve in television receivers.

## BASE CONNECTIONS AND VALVE DIMENSIONS



External view

Base Type : B9A

Bulb : Tubular.

### Maximum Dimensions

Overall Length :	78	mm
Seated Length	72	mm
Diameter	22	mm

## HEATER

$I_h$	0.3	A
$V_h$	15	V

## MAXIMUM RATINGS

$V_{h-k}$	150	V
$V_a$	250	V
$V_{g2}$	250	V
$P_a$	9	W
$P_{g2}$	2	W

## CHARACTERISTICS

### Pentode Connection

$V_a$	170	200	250	V
$V_{g2}$	170	200	250	V
$V_{g1}$ approx.	-2.3	-3.5	-5.8	V
$I_a$	36	40	36	mA
$I_{g2}$	5	5.5	5	mA
$\mu$	410	450	840	
$r_a$	41	42	75	k $\Omega$
$g_m$	10	10.7	11.2	mA/V

### Triode Connection

$V_a, g2^*$	170	200	V
$V_{g1}$ approx.	-2.4	-3.4	V
$I_a, g2$	40	45	mA
$\mu$	24	25	—
$r_a, g2$	1.92	1.84	k $\Omega$
$g_m$	12.5	13.5	mA/V

\*  $g_2$  connected to anode through 100 ohms resistor.

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED

Head Office : Marconi House, Chelmsford · Telephone : Chelmsford 3221 · Telegraphic Address : Expanse, Chelmsford

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## TYPICAL OPERATION

### Pentode Connection

#### Class A Amplifier. Single Valve

$V_a$	170	200	250	V
$V_{g2}$	170	200	250	V
$V_{g1}$ (no sig.) approx.	-2.5	-3.0	-5.5	V
$I_a$ (no sig.)	32	39	33	mA
$I_{g2}$ (no sig.)	4.2	5.0	4.2	mA
$r_a$	5.0	5.0	5.0	k $\Omega$
$R_k$	68	68	150	$\Omega$
$P_{out}$	1.65	2.72	3.45	W
D	7.8	10.0	10.0	%

## CAPACITANCES

Taken on an unscreened valve.

$C_{in}$  10.8 pF       $C_{out}$  6 pF       $C_{a-g}$  <0.1 pF

## MOUNTING

Any position.

## SCREENING

No internal or external screening is fitted to the valve.

## RETAINING

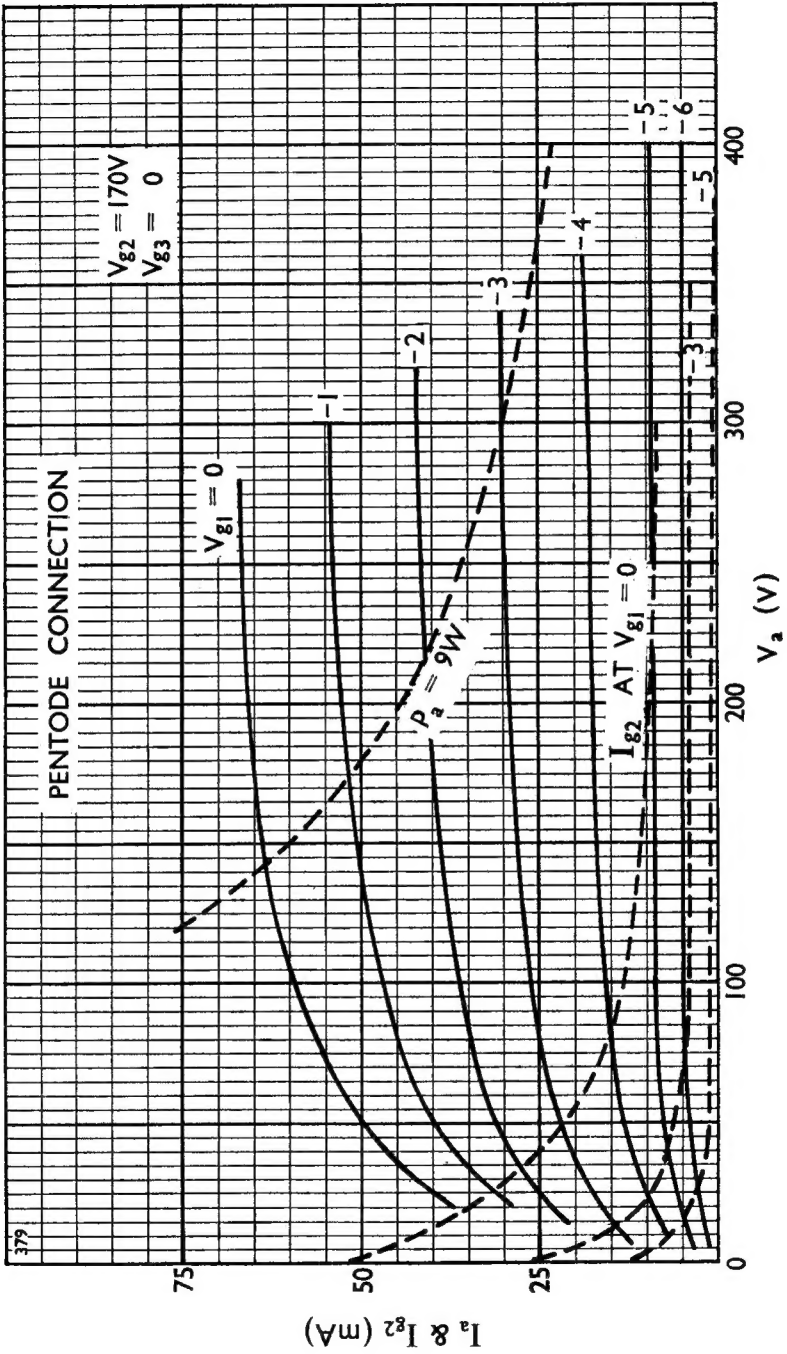
In equipment subject to vibration or shock a retainer is required.

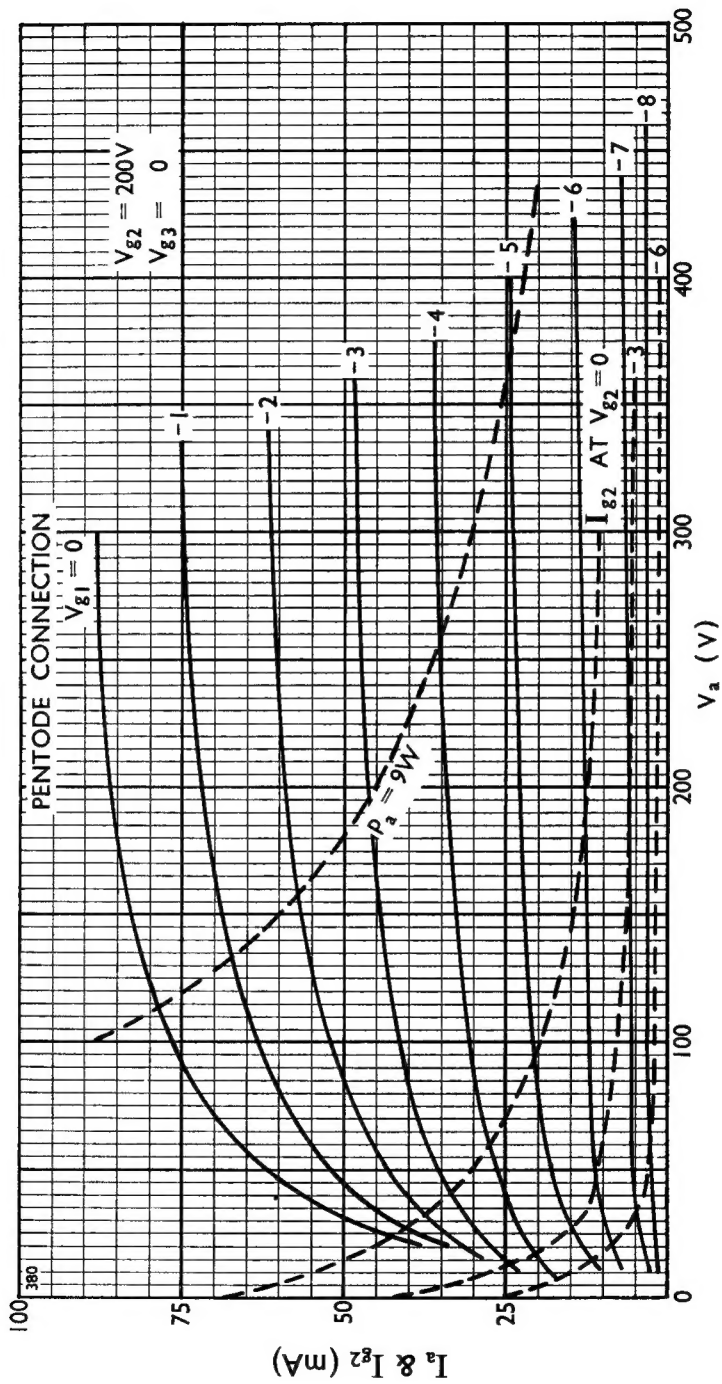
## VENTILATION

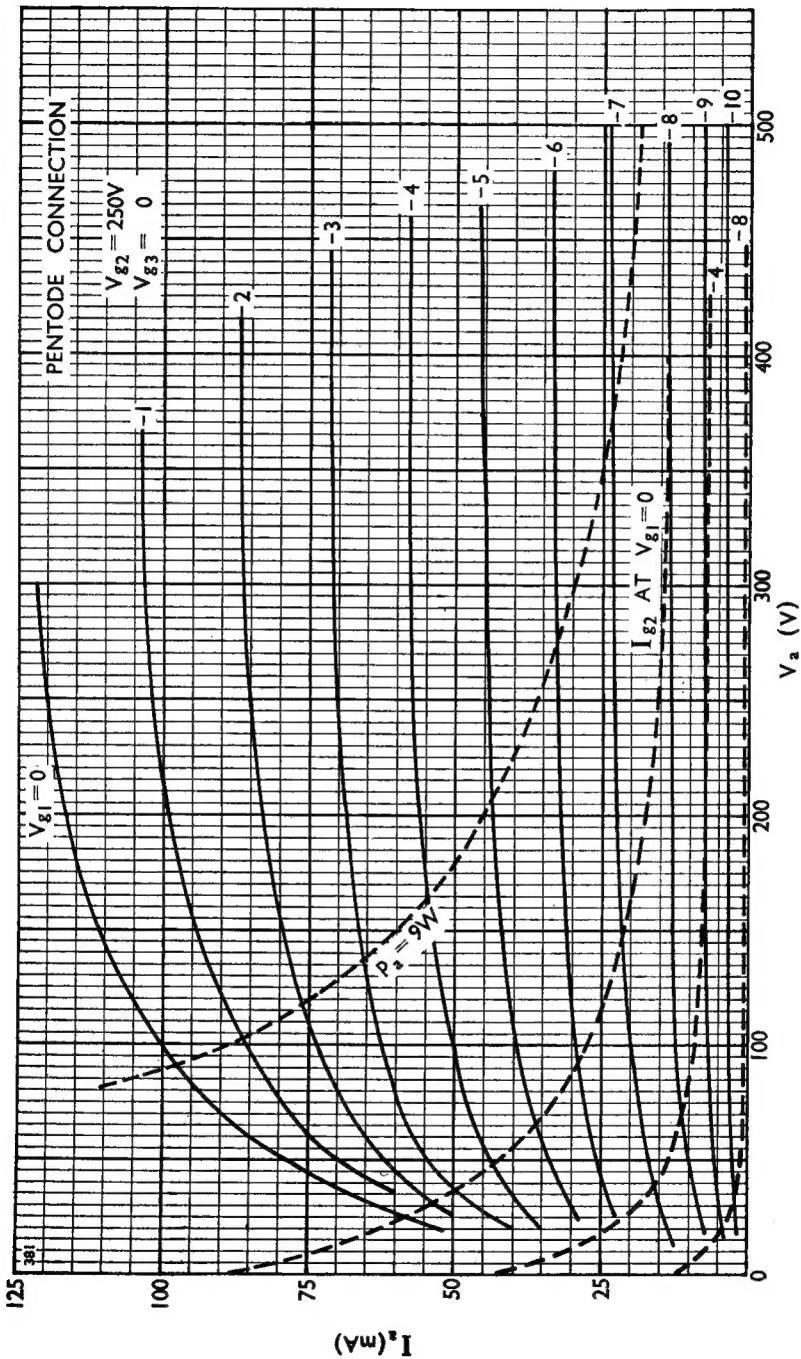
Free air circulation is preferable. The temperature of the hottest part of the bulb must not exceed 200°C.

## MICROPHONY

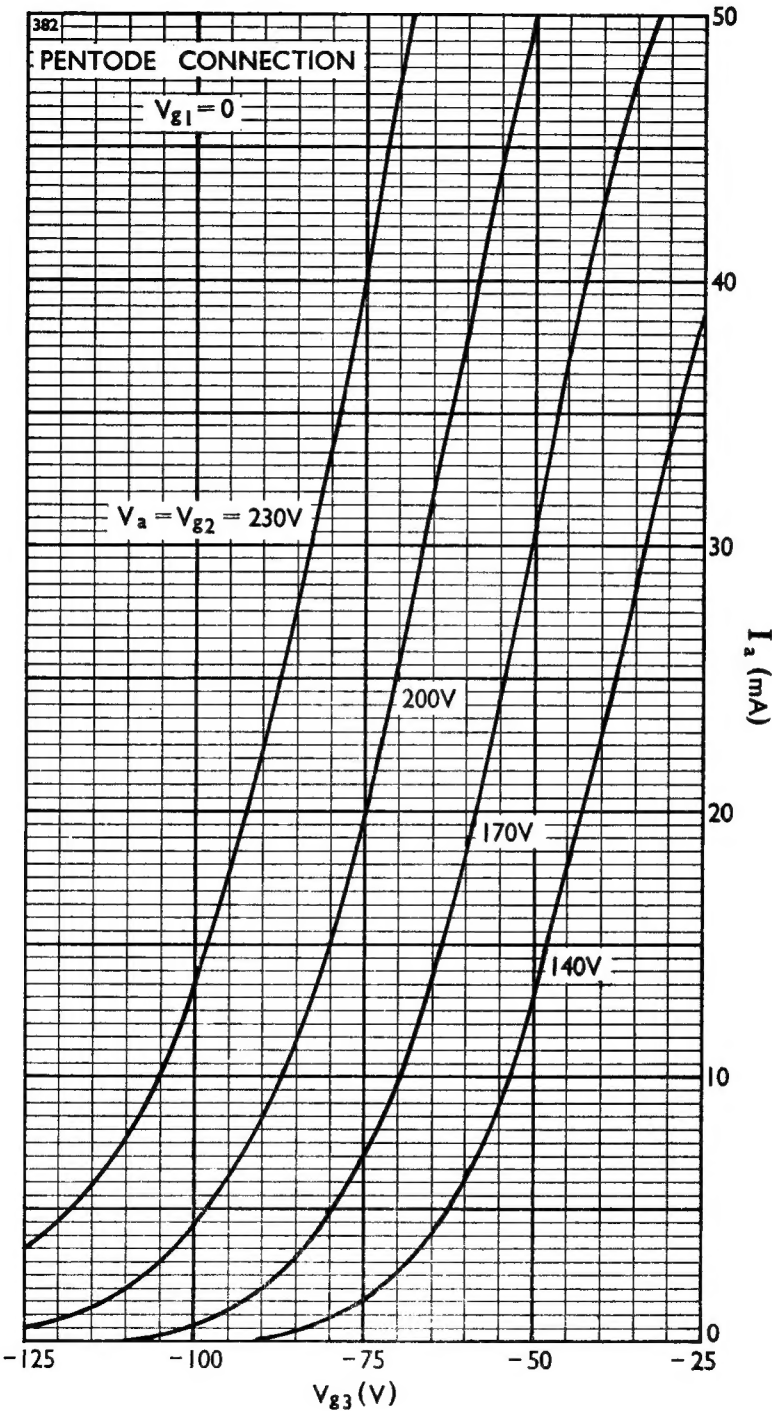
This type is free from microphony in normal receiver application.

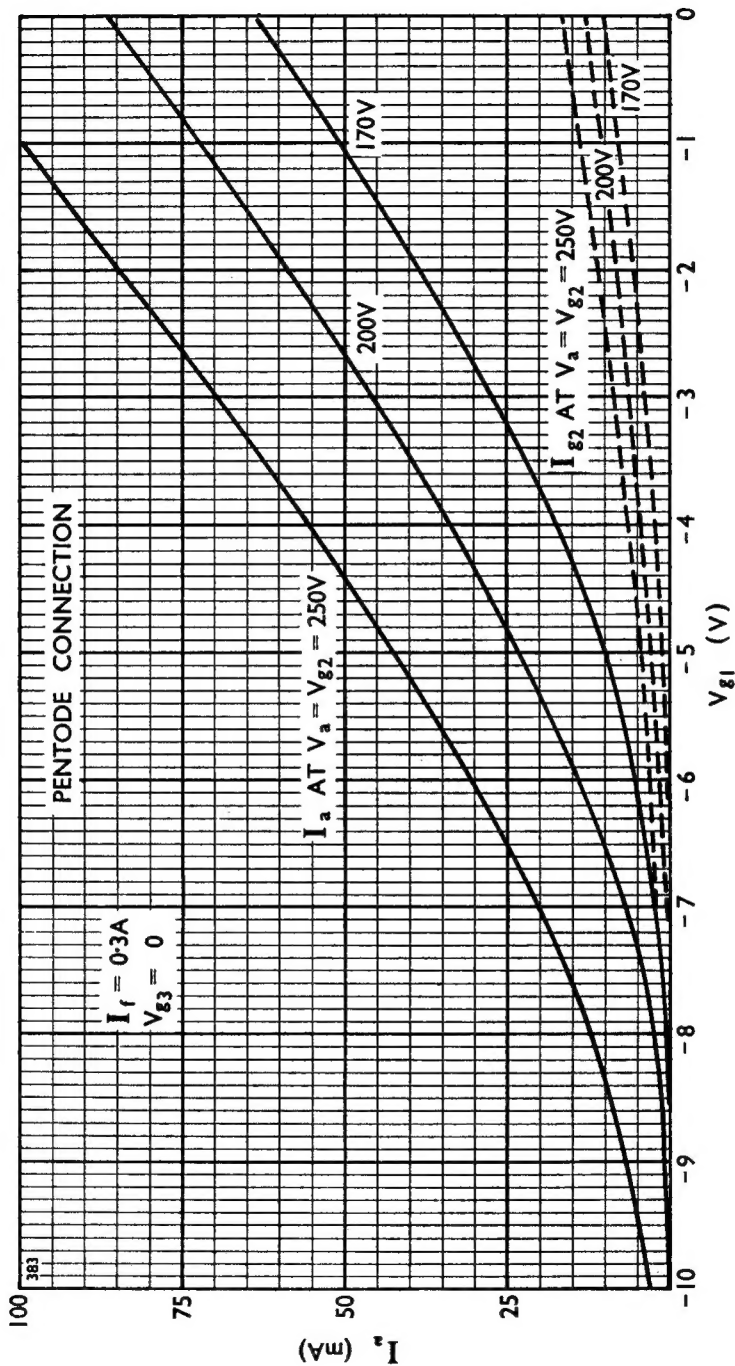


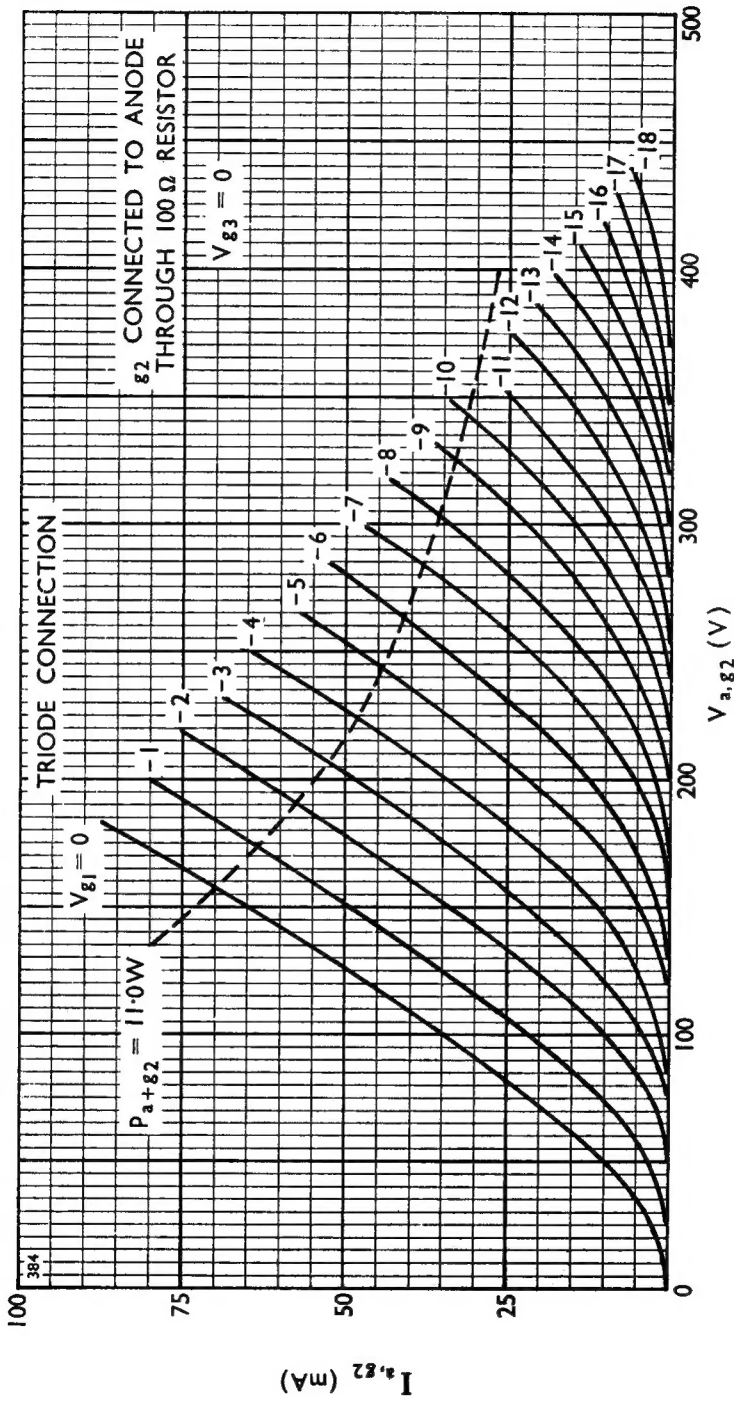




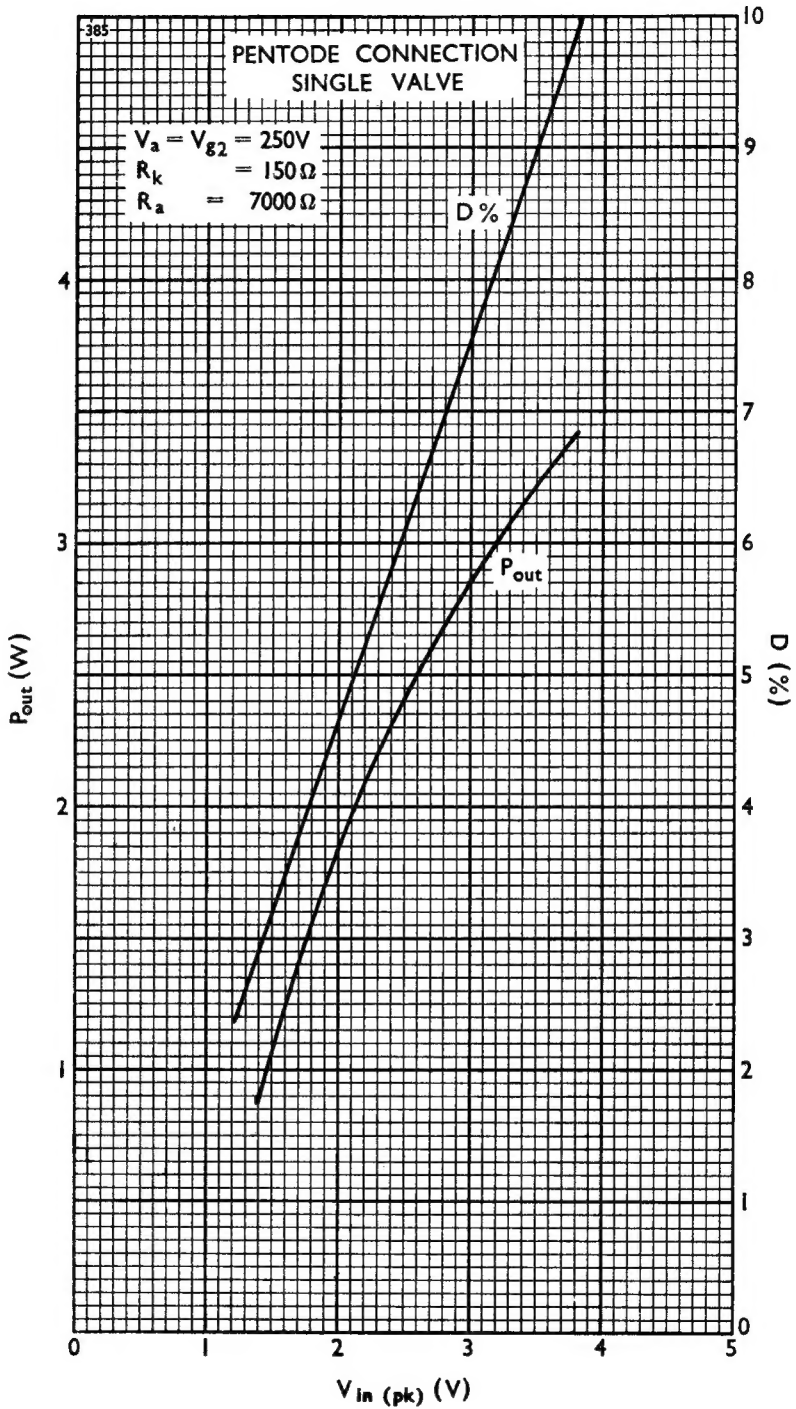
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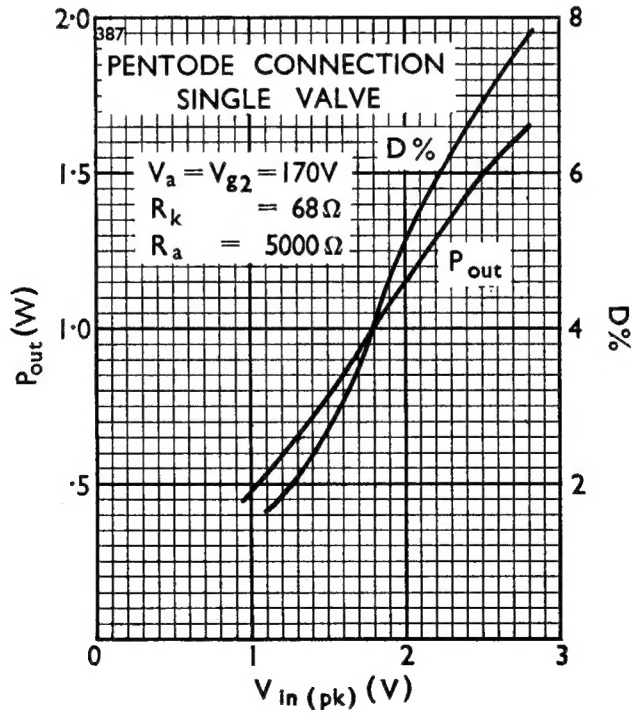
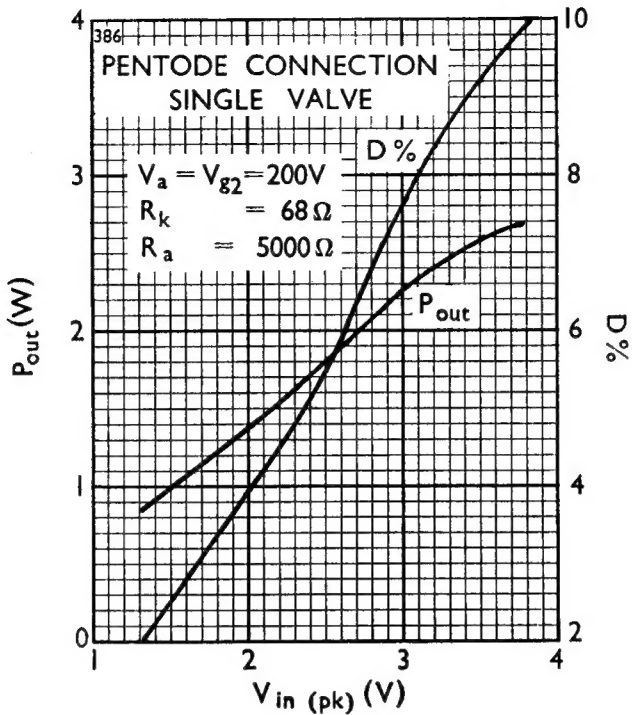








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